

Claims

1. Rolling bearing comprising at least one ring provided with raceway and rolling elements to engage said raceway, wherein said ring and raceway comprise a ball  
5 bearing steel, said ring and/or rolling elements having a nickel-phosphorus coating characterized in that said coating comprises at least 9% by wt phosphorous.
2. Rolling bearing according to claim 1, wherein said coating comprises at least 70% by wt. Ni and 9-20% by wt. phosphorus.
- 10 3. Rolling bearing according to one of the preceding claims, wherein between said bearing steel and the coating an adhesion a layer is provided.
4. Rolling bearing according to claim 3, wherein said layer comprises a nickel-layer.
- 15 5. Rolling bearing according to claim 4, wherein said layer has a thickness smaller than 1  $\mu\text{m}$ .
6. Rolling bearing according to one of the preceding claims, wherein said coating  
20 has a thickness between 2-30  $\mu\text{m}$ , preferably 10-20  $\mu\text{m}$  and more preferably about 15  $\mu\text{m}$ .
7. Rolling bearing according to one of the preceding claims, wherein said ball bearing steel comprises about 1% by wt. C, 1,5% by wt. Cr and balance Fe.
- 25 8. Rolling bearing according to one of the preceding claims, wherein the outer surface of the rolling elements comprises a ceramic material.
9. Rolling bearing according to one of the preceding claims, wherein the outer  
30 surface of the rolling elements comprises a low friction coating.
10. Method for producing a rolling bearing comprising at least one ring provided with raceway and rolling element to engage said raceway, wherein said ring and

raceway comprise a ball bearing steel, wherein said ring and/or rolling elements are coated with a nickel-phosphorus coating, characterised in that that before coating said elements a striking-layer is provided.

- 5    11. Method according to claim 10, wherein said striking-layer is electrolytically applied to said elements.

12. Method according to claim 10 or 11, wherein said ring and/or rolling element are produced from a ball bearing steel and after hardening and possibly finishing are  
10 subjected to a machining step wherein about the same amount of material is removed as is deposited during subsequent depositing of the nickel-phosphorus coating.

13. Method according to one of the claims 10-12, wherein said coating comprises chemical deposition.

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14. Method according to one of the claims 10-13, wherein the rolling elements are coated and said coating comprises moving of said elements in a bath during coating.

15. Method according of one of the claims 10-14, wherein after coating the rolling  
20 elements and ring are directly assembled.